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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,083	04/25/2000	John Hsieh	k2000003	9198

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EXAMINER

COLAIANNI, MICHAEL

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 05/22/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/558,083

Applicant(s)

HSIEH ET AL.

Examiner

Michael P Colaianne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-44,48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) 48 and 49 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5,7-16 and 40-44 is/are allowed.
- 6) ☒ Claim(s) 17-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Election/Restrictions

Applicant's election of Group I, claims 1-47 in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 48-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 17 is rejected under 35 U.S.C. 102(b) as anticipated by McCormick Jr. 2329922.

McCormick Jr. teaches providing a glass work piece that surrounds a waste piece (Fig. 2, ref. no. 7 and 8, 7 is the waste piece); heating a glass work piece without mechanically contacting the major surfaces of the workpiece (Fig. 3, ref. no. 19, 18 and 6); cooling the waste piece whereby the waste piece contracts relative to the workpiece (Fig. 3, ref. no. 15, and page 2, col. 1, lines 11-44), and the work piece expands relative to the wastepiece and separating the work piece and the waste piece (page 2, col.1, lines 11-44). McCormick Jr. also teaches that the heating element has a fixed heating

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surface (Fig. 3, ref. no. 6, the heating element heats the fixed heating surface of disk 6).

The claim language "a heating element having a fixed heating surface" has been interpreted as the heating element which heats a fixed surface. The claim language is vague and leaves the claim open to interpretation.

Claims 24-29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McCormick Jr. 2329922, also in view of Webster's Third New International Dictionary, page 901, the definition of "fracture".

McCormick Jr. teaches providing a glass work piece that surrounds a waste piece (Fig. 2, ref. no. 7 and 8, 7 is the waste piece); heating a glass work piece without mechanically contacting the major surfaces of the workpiece (Fig. 3, ref. no. 19, 18 and 6); cooling the waste piece whereby the waste piece contracts relative to the workpiece (Fig. 3, ref. no. 15, and page 2, col. 1, lines 11-44), and the work piece expands relative to the wastepiece and separating the work piece and the waste piece (page 2, col.1, lines 11-44).

McCormick Jr. also teaches that the glass is fractured all the way through prior to the heat treatment (page 1, col. 1, lines 43-55, page 2, col. 1, lines 21-24). The term "fracture" used by McCormick at page 1, col. 1, line 52 at page 2, col. 1, line 21-22 is given its ordinary dictionary definition as defined by Webster's Dictionary at page 901, "rupture by a break through the entire thickness of the material."

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McCormick also teaches heating the second portion of the glass (Fig. 3, ref. no. 18 and 6, the outer ring is heated by the flame).

McCormick also teaches cooling the first portion (Fig. 3, ref. no. 15, the ceramic material keeps the inner portion cooler than the outer portion).

McCormick also teaches the first and second portions being disk shaped (Fig. 2, ref. no. 7 and 8).

In the alternative, it would have been prima facie obvious at the time the invention was made to crack the glass the whole way through along the score line with McCormick's thermal method of cutting glass because McCormick teaches that the glass is fractured prior to heating along the score and Webster's Dictionary teaches that the ordinary meaning of fracture is that the crack extends the entire distance through the material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 18-23, 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick Jr. et al. 2329922 in view of Kuramoto et al. JP 2-92837.

McCormick substantially teaches applicant's claimed invention. See the §102(b) rejection for McCormick's teachings. However, McCormick does not teach using a heating plate to heat the outer waste piece and thereby effect the thermal separation; or the various claimed temperature differences.

However, Kuramoto et al. teach that it is well known to use a hot plate to heat the outer portion of the glass material (Fig. 2, ref. no. 5 and 4). Kuramoto et al. also teach that the temperature difference is 50-400°C which encompasses all of applicant's claimed temperature differences. Moreover, McCormick teaches that the temperatures of the inner and outer portions are manipulated to effect the desired separation (page 2, col. 1, lines 24-31, 40-43).

It would have been prima facie obvious at the time the invention was made to combine Kuramoto et al.'s teachings with McCormick's glass cutting method because using a heating plate in place of a burner would provide added versatility and in view of McCormick's teachings of manipulating temperature to achieve the desired product.

Claims 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick Jr. 2329922 in view of Jackson 4934112.

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McCormick substantially teaches applicant's claimed invention. See the §102(b) rejection for McCormick's teachings. However, McCormick does not teach using a vacuum grip to grip the waste pieces such that the piece is close enough to the vacuum chuck so as to be held by the vacuum chuck.

However, Jackson teaches that it is known to use a vacuum gripping device to grip and hold waste pieces of glass cut from intricately shaped glass pieces (col. 8, lines 48-54). Moreover, the Examiner takes Official Notice that it is well known in the glass making art to use vacuum tables with heaters installed therein and the vacuum set-up having multiple channels for providing the required vacuum. This set-up allows the glass to be heated while providing the necessary support for the glass.

It would have been prima facie obvious at the time the invention was made to combine Jackson's teachings with McCormick's glass cutting method because doing so would permit the efficient removal of waste glass from the cutting area using well known vacuum removal means. Also, McCormick teaches the importance of maintaining the proper temperature to avoid warping the glass sheet (page 2, col. 1, lines 40-43).

Allowable Subject Matter

Claims 1-5, 7-16, 40-44 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art examined taught or fairly suggested a method of cutting glass having the following combination of steps: providing a glass work piece with an inner cut and an outer cut formed therein, the portion of the work piece outside said outer cut constituting an outer waste piece, the portion of said work piece inside said inner cut constituting an

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inner waste piece, the portion said work piece between said inner and outer cuts constituting a middle portion of said work piece; heating the middle portion and cooling the inner waste piece including the sub steps of, placing said middle portion proximate to but not in contact with a surface of a heating element, placing a cooling element against the inner waste piece, and lifting the inner waste piece relative to the middle portion to thereby separate the inner waste piece from the middle portion and separating the inner waste piece from the middle portion.

Also, none of the prior art taught or fairly suggested a method of cutting glass having the following combination of steps: providing a work piece and a waste piece; placing one of the waste piece or the product piece adjacent to a temperature element, said temperature element changing the temperature of the adjacent waste piece or product piece so that the waste piece and product pieces can be displaced relative to one another; and moving the adjacent waste piece or product piece by moving the temperature element in order that the waste and product pieces are displaced relative to one another.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments, see Paper No. 10, filed March 5, 2003, with respect to claims 1-16, 40-44 have been fully considered and are persuasive. The rejections of claims 1-16 and 40-44 has been withdrawn.

Applicant's arguments filed March 5, 2003, Paper No. 10 regarding claims 17-39 have been fully considered but they are not persuasive.

Claim 17

Applicant argues that claim 17 was amended to recite that the heating surface is fixed. However, the claim language, "a heating element having a fixed heating surface," given its broadest reasonable interpretation, may be interpreted that the heating element heats a fixed heating surface. The surface the heating elements heats is also deemed to be the heating element's "heating surface." The rejection is sustained.

Claim 24

Applicant amended claim 24 to state that the causing step occurs subsequent to the providing step. As noted above, McCormick does teach that the crack forming precedes the thermal treatment. Thus, the rejection is sustained.

Claim 36

Applicant amended claim 36 to state that one of the product piece or the waste piece is moved close enough to a vacuum chuck so as to be held by the vacuum chuck. As noted by applicant, Jackson does suck the glass by using a vacuum. Applicant then states that sucking of the glass does not mean that the vacuum holds the glass. The Examiner respectfully disagrees.

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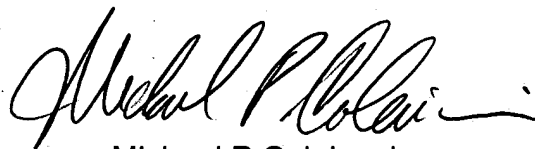
Jackson clearly states that the vacuum is used to "pick up" the glass pieces which means that the vacuum is strong enough to hold the glass pieces for transport. The rejection is sustained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P Colaianni whose telephone number is 703-305-5493. The examiner can normally be reached on Monday to Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Michael P Colaianni
Primary Examiner
Art Unit 1731

MPC
May 21, 2003

**MICHAEL COLAIANNI
PRIMARY EXAMINER**